

REMARKS

Applicants respectfully request further examination and reconsideration in view of the instant response. Claims 1-11 and 13-44 remain pending in the case. Claims 1-44 are rejected. Claim 12 is cancelled herein without prejudice. Claims 1, 13 and 14 are amended herein. No new matter has been added as a result of the amendments.

35 U.S.C. §101

The Office Action mailed July 26, 2007, states that Claims 30-44 are rejected under 35 U.S.C. §101 as being directed toward non-statutory subject matter. Specifically, it is asserted that the claims "merely claim elements stored on a medium, not [sic] transformation is taking place to store the data" (Office Action mailed July 26, 2007; page 2, section 4). Applicants respectfully submit that Claims 30-44 are directed to patentable subject matter.

Applicants respectfully direct the Examiner to MPEP 2106.01(I) which recites in part that "a claimed computer-readable medium encoded with a data structure defines structural and functional interrelationships between the data structure and the computer software and hardware components which permit the data structure's functionality to be realized, and is thus statutory" (emphasis added). Moreover, "[w]hen functional descriptive material is recorded on some computer-readable medium, it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology

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permits the function of the descriptive material to be realized" (emphasis added; MPEP 2106.01).

Applicants respectfully direct the Examiner to independent Claim 30 that recites that an embodiment of the present invention is directed to (emphasis added):

A computer readable medium having a data packet stored therein for causing a functional change in the operation of a device, said data packet comprising:  
a plurality of truncatable units, each of said units comprising an amount of media data; and  
a cryptographic checksum computed for each of said truncatable units.

Specifically, independent Claim 30 includes the claim element "a cryptographic checksum computed for each of said truncatable units" (emphasis added). Applicants respectfully submit that the elements are interrelated as a cryptographic checksum is computed for each truncatable unit. Applicants submit that such a computation includes a data transformation.

Therefore, Applicants respectfully submit that Claim 30 overcomes the rejection under 35 U.S.C. §101, as Claim 30 is directed toward patentable subject matter. Applicants respectfully submit that Claims 31-44 also overcome the rejection under 35 U.S.C. § 101, and are in a condition for allowance as being dependent on an allowable base claim.

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35 U.S.C. §103 - Claims 1-5, 7, 8, 11-14, 16, 17, 19-22, 30, 36, 37 and 44

The Office Action mailed July 26, 2007, states that Claims 1-5, 7, 8, 11-14, 16, 17, 19-22, 30, 36, 37 and 44 are rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent Application Publication No. 2003/0103571 by Meehan et al., hereinafter referred to as "Meehan", in view of U.S. Patent Application Publication No. 2004/0196975 by Zhu et al., hereinafter referred to as "Zhu". Claim 12 is cancelled herein without prejudice. Therefore, a discussion of the rejection of Claim 12 is moot at this time. Applicants have reviewed the cited references and respectfully submit that the embodiments of the present invention as recited in Claims 1-5, 7, 8, 11, 13, 14, 16, 17, 19-22, 30, 36, 37 and 44 are patentable over the combination of Meehan and Zhu for at least the following rationale.

Applicants respectfully direct the Examiner to independent Claim 1 that recites that an embodiment of the present invention is directed to (emphasis added):

A method for ensuring integrity of data, comprising:  
separating an amount of data into segments comprising a plurality of truncatable units;  
computing a cryptographic checksum for a said segment;  
and  
combining a segment and an associated cryptographic checksum into a data packet.

Independent Claims 16 and 30 include similar recitations. Claims 2-5, 7, 8, 11, 13 and 14 that depend from independent Claim 1, Claims 17 and 19-22 that

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depend from independent Claim 16; and Claims 36, 37 and 44 that depend from independent Claim 30 also include these recitations.

Applicants respectfully note that "[t]o establish a *prima facie* case of obviousness ... the prior art reference (or references when combined) must teach or suggest all the claim limitations" (MPEP 2142). In particular, "[a] prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention" (MPEP 2141.03(IV)).

Applicants respectfully submit that Meehan is very different from the claimed embodiments. Applicants understand Meehan to teach a method and system for modulating an MPEG-4 FGS compressed video stream for variable-bandwidth transmission (Abstract). In particular, Applicants respectfully submit that Meehan at least does not teach, describe or suggest "separating an amount of data into segments comprising a plurality of truncatable units" (emphasis added) and "combining a segment and an associated cryptographic checksum into a data packet" as recited in independent Claim 1, and the similar recitations of independent Claims 16 and 30.

First, Applicants respectfully submit that Meehan does not teach, describe or suggest "separating an amount of data into segments comprising a plurality of truncatable units" (emphasis added). Applicants understand Meehan to disclose a method and system for modulating an MPEG-4 fine-grain scalable (FGS)

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compressed video stream for variable-bandwidth transmission (Abstract). With reference to Figure 1 of Meehan, MPEG-4 compression engine 2 is operable to generate a base layer 3 and one or more enhancement layers 4 ([0041]).

Applicants respectfully submit that a layer is not a "segment" as claimed. In particular, Applicants respectfully submit that Meehan does not teach, describe or suggest "segments" as claimed. Furthermore, Applicants respectfully submit that Meehan does not teach, describe or suggest that any of the base layer 3 or enhancement layers 4 include "truncatable units" as claimed.

In contrast, Applicants understand Meehan to disclose the modulation of a video stream. Meehan recites that "[a]t the start of the source video stream 11, the stream undergoes video compression 12 using an MPEG-4 FGS compression engine or the like as previously described. The compression engine is designed to accept control input from a receiver or display device, or even from a signal transmitter device" ([0051]). Moreover, "[a] receiver and/or display device next receives, decodes and displays the video 15. The receiver/display device may then generate a feedback control signal to control modulation of the video stream, such as by the video compression step 16" (emphasis added) ([0045]).

Applicants respectfully submit that modulation of a video stream, as disclosed in Meehan, does not teach, describe or suggest "truncatable units" as

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recited in independent Claims 1, 16 and 30. Moreover, Applicants respectfully submit that by disclosing the use of a feedback control signal to control the modulation of the video stream, Meehan teaches away from the use of "truncatable units" as claimed.

Applicants respectfully submit that Zhu does not overcome the shortcomings of Meehan. In particular, Applicants respectfully submit that Zhu also does not teach, describe or suggest "separating an amount of data into segments comprising a plurality of truncatable units" (emphasis added) as claimed. As understood by the Applicants, Zhu discloses fully scalable encryption for scalable multimedia (Abstract). Applicants respectfully submit that Zhu does not teach, describe or suggest "truncatable units" as claimed. In particular, Applicants submit that Zhu is silent to such a teaching. Therefore, Applicants respectfully submit that Zhu shares at least some of the shortcomings of Meehan. Thus, Zhu, alone or in combination with Meehan, does not show or suggest the embodiments as claimed.

Second, Applicants respectfully note the acknowledgement in the Office Action mailed July 26, 2007, that Meehan "does not specifically teach a cryptographic checksum, but rather an error code to check and correct for errors (paragraph 0042)" (page 3, section 6). Moreover, the instant Office Action relies on Zhu as providing such a teaching in stating that Zhu "teaches computing a cryptographic checksum for said segment (paragraph 0043)" (page 3, section 6).

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However, Applicants respectfully submit that Zhu does not teach, describe or suggest that which it is asserted as teaching, i.e. a cryptographic checksum. With reference to Figure 3 of Zhu, an encryption engine 204 including content-based key generator 302, base layer cipher 304, enhancement layer cipher 314, and stream cipher key 316. Applicants respectfully submit that these components, alone or in combination, do not teach, describe or suggest the claimed "cryptographic checksum." In particular, Applicants respectfully submit that the encryption as disclosed in Zhu is used for protection of multimedia (see at least [0011] and [0041] through [0048]). However, Applicants respectfully submit that Zhu does not teach, describe or suggest validating the integrity of data, e.g., to verify that the data has not been altered. Accordingly, Applicants respectfully submit that Zhu does not teach, describe or suggest "a cryptographic checksum" as claimed.

Applicants respectfully assert that the combination of Meehan and Zhu does not teach, disclose or suggest the claimed embodiments of the present invention as recited in independent Claims 1, 16 and 30, that these claims overcome the rejection under 35 U.S.C. § 103(a), and that these claims are thus in a condition for allowance. Therefore, Applicants respectfully submit that the combination of Meehan and Zhu also does not teach or suggest the additional claimed features of the present invention as recited in Claims 2-5, 7, 8, 11, 13 and 14 that depend from independent Claim 1, Claims 17 and 19-22 that depend

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from independent Claim 16, and Claims 36, 37 and 44 that depend from independent Claim 30. Therefore, Applicants respectfully submit that Claims 2-5, 7, 8, 11-14, 17, 19-22, 36, 37 and 44 also overcome the rejection under 35 U.S.C. § 103(a), and are in a condition for allowance as being dependent on an allowable base claim.

35 U.S.C. §103(a) - 6, 9, 10, 15, 17, 18, 23-29, 31-35 and 38-43

Claims 6, 9, 10, 15, 17, 18, 23-29, 31-35 and 38-43 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Meehan in view of Zhu, further in view of U.S. Patent No. 6,963,972 by Chang et al., hereinafter referred to as the "Chang" reference. Claims 6, 9, 10 and 15 depend from independent Claim 1, Claims 17, 18 and 23-29 depend from independent Claim 16, and Claims 31-35 and 38-43 depend from independent Claim 30. Applicants have reviewed the cited references and respectfully submit that the embodiments of the present invention as recited in Claims 6, 9, 10, 15, 17, 18, 23-29, 31-35 and 38-43 are patentable over the combination of Meehan, Zhu and Chang for at least the following rationale.

Claims 6, 9, 10 and 15 are dependent on independent Claim 1 and include the recitations of Claim 1, Claims 17, 18 and 23-29 are dependent on independent Claim 16 and include the recitations of Claim 16, and Claims 31-35 and 38-43 are dependent on independent Claim 30 and include the recitations of Claim 30. Hence, by demonstrating that Meehan, Zhu and Chang do not show

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or suggest the limitations of Claims 1, 16 and 30, it is also demonstrated that Meehan, Zhu and Chang do not show or suggest the embodiments of Claims 6, 9, 10, 15, 17, 18, 23-29, 31-35 and 38-43.

As described above, Applicants respectfully submit that the combination of Meehan and Zhu does not teach, describe or suggest "separating an amount of data into segments comprising a plurality of truncatable units" and "computing a cryptographic checksum for a said segment", (emphasis added) as claimed.

Further, Applicants respectfully submit that the combination of Meehan, Zhu and Chang fails to teach or suggest this claim limitation because Chang does not overcome the shortcomings of Meehan and Zhu. Applicants understand Chang to disclose a method and apparatus for networked information dissemination through secure transcoding (Title). More particularly, Applicants respectfully submit that Chang is silent as to the use of "segments", a "cryptographic checksum", and "truncatable units" as claimed. Therefore, Applicants respectfully submit that Chang does not teach, describe or suggest "separating an amount of data into segments comprising a plurality of truncatable units" and "computing a cryptographic checksum for a said segment", (emphasis added) as claimed.

Applicants respectfully assert that the combination of Meehan, Zhu and Chang does not teach, disclose or suggest the claimed embodiments of the

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present invention as recited in independent Claims 1, 16 and 30, that these claims overcome the rejection under 35 U.S.C. § 103(a), and that these claims are thus in a condition for allowance. Applicants respectfully submit that the combination of Meehan, Zhu and Chang also does not teach or suggest the additional claimed features of the present invention as recited in Claims 6, 9, 10 and 15 that depend from independent Claim 1, Claims 17, 18 and 23-29 that depend from independent Claim 16, and Claims 31-35 and 38-43 that depend from independent Claim 30. Therefore, Applicants respectfully submit that Claims 6, 9, 10, 15, 17, 18, 23-29, 31-35 and 38-43 also overcome the rejection under 35 U.S.C. § 103(a), and are in a condition for allowance as being dependent on an allowable base claim.

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CONCLUSION

Based on the arguments presented above, Applicants respectfully assert that Claims 1-44 overcome the rejections of record and, therefore, Applicants respectfully solicit allowance of these Claims.

Respectfully submitted,

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